

## WEST

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L6: Entry 8 of 24

File: DWPI

Sep 21, 1998

DERWENT-ACC-NO: 1993-067839

DERWENT-WEEK: 199844

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TITLE: Fertiliser granules coated with several distinct layers of polyurethane - formed by hardening poly:isocyanate-poly:ol coating mixt., provide sustained, diffusion controlled nutrient release

INVENTOR: BURGER, H; JASCHKOWITZ, M ; KLOTH, B ; KOHL, W ; WEGENER, H ; WEHR, P ; BUERGER, H

## PATENT-ASSIGNEE:

ASSIGNEE	CODE
AGLUKON SPEZIALDUNGER GMBH	AGLUN
AGLUKON SPEZIALDUNGER GMBH	AGLUN
AGLUCON SPETZIALDUNGER GMBH	AGLUN

## PRIORITY-DATA:

1991DE-4127459

August 20, 1991

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
NO 303908 B1	September 21, 1998	N/A	000	C05G003/00
DE 4127459 A1	February 25, 1993	N/A	011	C05G003/00
WO 9304017 A1	March 4, 1993	G	022	C05G003/00
AU 9224399 A	March 16, 1993	N/A	000	C05G003/00
DE 4127459 C2	July 29, 1993	N/A	011	C05G003/00
ZA 9206284 A	July 28, 1993	N/A	019	C05G000/00
PT 100787 A	September 30, 1993	N/A	000	C05G005/00
NO 9400386 A	February 7, 1994	N/A	000	C05G003/00
FI 9400776 A	February 18, 1994	N/A	000	C05G000/00
EP 599927 A1	June 8, 1994	G	000	C05G003/00
CZ 9400367 A3	July 13, 1994	N/A	000	C05G003/00
AU 652663 B	September 1, 1994	N/A	000	C05G005/00
JP 07500560 W	January 19, 1995	N/A	000	C05G003/00
NZ 244013 A	February 24, 1995	N/A	000	C05G005/00
HU 70289 T	September 28, 1995	N/A	000	C05G003/00
IL 102868 A	October 31, 1995	N/A	000	C05G003/00
EP 599927 B1	June 11, 1997	G	011	C05G003/00
DE 59208613 G	July 17, 1997	N/A	000	C05G003/00
ES 2104939 T3	October 16, 1997	N/A	000	C05G003/00
CZ 282958 B6	November 12, 1997	N/A	000	C05G003/00
RU 2091357 C1	September 27, 1997	N/A	008	C05G003/00

DESIGNATED-STATES: AU CA CS FI HU JP NO PL RU US AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE AT BE CH DE DK ES FR GB GR IE IT LI LU NL SE

CITED-DOCUMENTS:DE 3544451; US 3264089 ; US 4711659

## APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-NO
NO 303908B1	August 18, 1992	1992WO-DE00697	N/A
NO 303908B1	February 7, 1994	1994NO-0000386	N/A
NO 303908B1	N/A	NO 9400386	Previous Publ.
DE 4127459A1	August 20, 1991	1991DE-4127459	N/A
WO 9304017A1	August 18, 1992	1992WO-DE00697	N/A
AU 9224399A	August 18, 1992	1992AU-0024399	N/A
AU 9224399A	N/A	WO 9304017	Based on
DE 4127459C2	August 20, 1991	1991DE-4127459	N/A
ZA 9206284A	August 20, 1992	1992ZA-0006284	N/A
PT 100787A	August 19, 1992	1992PT-0100787	N/A
NO 9400386A	August 18, 1992	1992WO-DE00697	N/A
NO 9400386A	February 7, 1994	1994NO-0000386	N/A
FI 9400776A	August 18, 1992	1992WO-DE00697	N/A
FI 9400776A	February 18, 1994	1994FI-0000776	N/A
EP 599927A1	August 18, 1992	1992EP-0917606	N/A
EP 599927A1	August 18, 1992	1992WO-DE00697	N/A
EP 599927A1	N/A	WO 9304017	Based on
CZ 9400367A3	August 18, 1992	1994CZ-0000367	N/A
AU 652663B	August 18, 1992	1992AU-0024399	N/A
AU 652663B	N/A	AU 9224399	Previous Publ.
AU 652663B	N/A	WO 9304017	Based on
JP07500560W	August 18, 1992	1992WO-DE00697	N/A
JP07500560W	August 18, 1992	1993JP-0504031	N/A
JP07500560W	N/A	WO 9304017	Based on
NZ 244013A	August 19, 1992	1992NZ-0244013	N/A
HU 70289T	August 18, 1992	1992WO-DE00697	N/A
HU 70289T	August 18, 1992	1994HU-0000479	N/A
HU 70289T	N/A	WO 9304017	Based on
IL 102868A	August 19, 1992	1992IL-0102868	N/A
EP 599927B1	August 18, 1992	1992EP-0917606	N/A
EP 599927B1	August 18, 1992	1992WO-DE00697	N/A
EP 599927B1	N/A	WO 9304017	Based on
DE59208613G	August 18, 1992	1992DE-0508613	N/A
DE59208613G	August 18, 1992	1992EP-0917606	N/A
DE59208613G	August 18, 1992	1992WO-DE00697	N/A
DE59208613G	N/A	EP 599927	Based on
DE59208613G	N/A	WO 9304017	Based on
ES 2104939T3	August 18, 1992	1992EP-0917606	N/A
ES 2104939T3	N/A	EP 599927	Based on
CZ 282958B6	August 18, 1992	1992WO-DE00697	N/A
CZ 282958B6	August 18, 1992	1994CZ-0000367	N/A
CZ 282958B6	N/A	CZ 9400367	Previous Publ.
CZ 282958B6	N/A	WO 9304017	Based on
RU 2091357C1	August 18, 1992	1992WO-DE00697	N/A
RU 2091357C1	August 18, 1992	1994RU-0015604	N/A

599927 B1 INT-CL (IPC): B29B 9/16; C05G 0/00; C05G 3/00; C05G 3/10; C05G 5/00

ABSTRACTED-PUB-NO: DE 4127459A

BASIC-ABSTRACT:

Prepn. of membrane-coated fertiliser granules comprises applying in layers, a mixt. of polyisocyanate (I) and polyol (II). The new feature is that the coating mass is applied to form layers each 10-30 (pref. 15-20) microns thick.

Each portion of coating mass is individually hardened with a liq., atomised amine, and after each hardening step the amine concn. is reduced to an inactive level before applying the next layer.

USE/ADVANTAGE - The granules preferentially release N in the early stages, and K later. They can be prep'd. economically and on a large scale, with high homogeneity in each layer; are physically stable, resistant to frost and provide sustained release of nutrients in accordance with the laws of diffusion. The granules can be used alone or combined with other fertiliser

ABSTRACTED-PUB-NO:

DE 4127459C

EQUIVALENT-ABSTRACTS:

Fertiliser granules with a membrane coating are produced by forming layers of polyisocyanate and polyol, with each layer hardened separately with a mist of liq. amine. The individual layers are 10-30 microns thick. Between each hardening process, the amine concn. is reduced using a non-catalytic water gauge, before the next layer is applied. Pref. the mixt. is supplied at a temp. of 25-50 deg.C.

USE/ADVANTAGE - The delayed release fertiliser can be designed to release different components at different times, e.g. K may be released more slowly or later than N.

EP 599927B

A process for the manufacture of membrane-covered fertiliser granules by applying layers of a mixture of polyisocyanate and polyol, the layers each being cured separately with amine nebulized in liquid form, wherein the mixture is applied in each case in amounts such that the individual layers have a layer thickness of from 10 to 30 mm and, after the curing of each layer, the amine concentration is reduced to a level which is not catalytically active before the next layer is applied.

CHOSEN-DRAWING: Dwg.0/8 Dwg.0/8 Dwg.0/8

TITLE-TERMS: FERTILISER GRANULE COATING DISTINCT LAYER POLYURETHANE FORMING HARDEN POLY ISOCYANATE POLY OL COATING MIXTURE SUSTAINED DIFFUSION CONTROL NUTRIENT RELEASE

DERWENT-CLASS: A97 C04

CPI-CODES: A05-G01E1; A11-B05C; A12-B; A12-W04B; C04-C03D; C05-B02A4; C10-E04C; C12-M10; C12-M10A; C12-M11D; C12-N09; C12-N10;

CHEMICAL-CODES:

Chemical Indexing M1 \*02\*

Fragmentation Code

K0 L2 L230 L299 M210 M211 M212 M213 M214 M215  
M216 M220 M221 M222 M231 M232 M233 M273 M283 M312  
M313 M314 M315 M323 M331 M332 M333 M342 M383 M393  
M417 M423 M431 M510 M520 M530 M540 M620 M782 M903  
R032 R052 V743

Chemical Indexing M2 \*01\*

Fragmentation Code

A119 A940 B115 B713 B720 B813 B832 C101 C107 C108  
C307 C500 C510 C520 C730 C802 C807 M411 M417 M431  
M782 M903 P112 R032 R052

**POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:**

Key Serials: 0231 1294 1758 2020 2152 2198 2294 2295 2432 2440 2493 2654 2729 3261

Multipunch Codes: 014 04- 150 157 209 231 273 341 344 346 359 431 438 445 473 477 52& 575  
596 611

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1993-030148

WEST

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L6: Entry 23 of 24

File: DWPI

Mar 4, 1977

DERWENT-ACC-NO: 1977-26294Y  
DERWENT-WEEK: 197715  
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TITLE: Pesticidal compsns. with long-lasting effect - obtd. by coating or mixing the pesticide with polyurethane resin

## PATENT-ASSIGNEE:

ASSIGNEE	CODE
SANYO CHEM IND LTD	SANN

## PRIORITY-DATA:

1975JP-0103325 August 25, 1975

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 52028942 A	March 4, 1977	N/A	000	N/A
JP 82061241 B	December 23, 1982	N/A	000	N/A

INT-CL (IPC): A01N 17/00; A01N 25/10

ABSTRACTED-PUB-NO: JP52028942A

## BASIC-ABSTRACT:

The effect of pesticides can be prolonged by coating or mixing with polyurethane resin (capable of forming a film having permeability 400-3,000 g/m<sup>2</sup>/h). The resin is prep'd. by reacting polyol component with polyisocyanate component, at 50-150 degrees C in the presence of organic solvent under a stream of nitrogen gas. If desired, the reaction is conducted in the presence of catalyst such as triethylene diamine or p-toluenesulphonic acid.

The pesticides are herbicides, fungicides, insecticides, plant growth regulators, rodenticides, repellents, etc. These pesticides are used in the form of commercially available formulations such as powders, granules, wettable powders, emulsions or solns. or may be used in the form of active component. The way of mixing or spraying the pesticide with the resin is not limited.

The ratio of pesticide resin can be varied depending on the final formulation. Generally 0.01-500 pts. wt. of resin is used per 1 pt. wt. of the pesticide. Application amt. is 1-10 kg per 10 ares.

TITLE-TERMS: PEST COMPOSITION LONG LAST EFFECT OBTAIN COATING MIX PEST POLYURETHANE RESIN

DERWENT-CLASS: A25 A97 C03

CPI-CODES: A05-G01E; A12-D; A12-W04; A12-W12; C04-C03C; C12-A02; C12-L06; C12-M10; C12-N01; C12-N02; C12-N05; C12-N06; C12-P01; C12-P05;

CHEMICAL-CODES:< pre> Chemical Indexing M1 \*01\* Fragmentation Code V743 L460 L499 M431 P340 P341 P344 P362 P130 P133 P140 P145 P002 P241 P242 M782 R003 P361 R051 R052 M423 M902